



## Licensing of matrix questions in Japanese and its implications

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**Abstract.** Japanese allows matrix questions either with or without a Q-particle. It is therefore often assumed that a Q-particle is optional in matrix questions and questions can be licensed by a null Q-particle or rising-intonation. This paper, however, shows that some matrix questions require an overt Q-particle, which undermines the assumption that a null Q-particle or rising intonation can license sentences as interrogative. This study thus pursues the mechanism of licensing matrix questions without this assumption. In particular, I propose that yes/no- and *wh*-questions without an overt Q-particle are licensed via Agree with their relevant items (i.e. a polarity head and *wh*-phrase). I further argue that there are two positions where matrix yes/no-questions are licensed in Japanese. This two-layered approach can capture the typological distribution of Q-particles and universal properties of matrix yes/no-questions.

**Keywords.** matrix question; yes/no-question; Q-particle; clause-typing; speech-act phrase; rising intonation; focus intervention; Japanese

**1. Introduction.** This paper investigates the licensing condition of matrix questions in Japanese. Japanese matrix questions can occur either with or without a Q(uestion)-particle such as *ka*.<sup>1</sup> I assume that Q-particles are lexical elements that contain a [Q]-feature, which sentences must carry in a right position to form a question. Examples (1) and (2) illustrate the apparent optionality of a Q-particle in a yes/no-question and a *wh*-question, respectively.

- (1) a. Hanako-wa ki-masi-ta ka?  
Hanako-TOP come-POLITE-PAST Q  
'Did Hanako come?'  
b. Hanako-wa ki-masi-ta?
- (2) a. Dare-ga ki-masi-ta ka?  
who-NOM come-POLITE-PAST Q  
'Who came?'  
b. Dare-ga ki-masi-ta?

It has been considered that questions with the Q-particle *ka* are licensed as interrogative by that Q-particle. *Ka* instantiates the Force head in Rizzi's (1997) articulated CP structure and it carries a [Q]-feature (Hiraiwa and Ishihara 2012; Kuwabara 2013; Saito 2012). The structure of (1a) and (2a) is thus (3), in which the Force head is occupied by *ka*, which carries a [Q]-feature.

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<sup>1</sup> Japanese *no* has been standardly considered as a Q-particle because it is often used in matrix questions. However, as far as I know, questions ending with *no* can still be a question even without *no*, and there is no sentence that forms a question because of the existence of *no*. Kuwabara (2013) in fact argues that *no* is a Fin(iteness) head, not a morphological realization of a [Q]-feature, following Hiraiwa and Ishihara (2002) and Saito (2012). This paper also adopts this idea and treats *no* as a Fin head.

- (3) [ForceP [...[TP Subj/*wh* V-T]...] *ka*<sub>[Q]</sub>]

The main focus of this paper is how matrix questions without an overt Q-particle are typed as interrogative. It has been traditionally supposed that the Q-particle *ka* is optional in Japanese and questions without *ka* are licensed as interrogative by a null Q-particle or rising-intonation (K. Yoshida and Yoshida 1996; T. Yoshida 2012; Kuwabara 2013). This is often referred as *question marker drop* or *Q-drop*. Under this assumption, it is expected that a null Q-particle should behave the same as an overt Q-particle such as *ka* in matrix questions; otherwise it would be difficult for children to acquire the distribution of a null Q-particle. Especially if there is a situation where a null Q-particle cannot appear in a matrix question but an overt Q-particle can, then the acquisition of the null Q-particle cannot be done without negative evidence.

I will show that the distribution of matrix questions without a Q-particle is different from the one of matrix questions with a Q-particle in Section 2. This motivates a licensing mechanism of matrix questions without positing a null Q-particle. I then propose different licensing mechanisms for matrix questions with and without a Q-particle in Section 3. In particular, I propose that matrix questions without Q-particles are licensed via Agree with the relevant items with a [Q]-feature. I also argue that there are two positions to license matrix questions, namely, ForceP and Speech Act Phrase (SAP) (Speas and Tenny 2003; Haegeman and Hill 2013). The implication of this two-layered approach will be discussed in Section 4.

**2. Matrix questions with/without Q-particles.** This section shows that the distribution of matrix questions with a Q-particle is different from the one of matrix questions without a Q-particle. I first show that Q-particles are not optional in matrix questions, which suggests that there are no null counterparts of Japanese overt Q-particles. (4) shows that the Q-particle *ka* must be absent when the verb is not a polite form, although it is optional when it follows the polite form of the verb, as we have seen in (1) and (2).

- (4) a. \*Dare-ga ki-ta ka?  
       who-NOM come-PAST Q  
       b. Dare-ga ki-ta?  
           ‘Who came?’

This shows that there is a restriction on the use of the Q-particle *ka*. Nevertheless, the deviance of (4a) does not necessarily mean that matrix *wh*-questions with a non-polite verb can never be grammatical with a Q-particle. Japanese has another Q-particle *kke*, which also marks a sentence as interrogative (cf. (8)), and this particle does not require a polite form to the preceding verb.

- (5) Dare-ga ki-ta kke?  
       who-NOM come-PAST Q  
       ‘(Tell me again) who came?’

The Q-particle *kke* is known as triggering a remind-me presupposition, as shown in the translation (Sauerland and Yatsushiro 2017).<sup>2</sup> This presupposition cannot be obtained when *kke* is

<sup>2</sup> Where *kke* occurs is a complicated issue. *Kke* seems to appear in the Force head like *ka*, but it behaves as a discourse particle, which is often considered to appear somewhere in Speech Act projections. What is more interesting and puzzling is that *kke* can appear under *ka*, as shown in (i) (Sauerland and Yatsushiro 2017).

- (i) Namae-wa nan da kke ka?  
       name-TOP what COP Q Q  
       ‘(Tell me again) what is your name?’

absent, as in (4b). These data thus suggest that there are no null counterparts of overt Q-particles such as *ka* and *kke* in Japanese. They also show that an overt Q-particle is not a simple realization of a [Q]-feature (Ginsburg 2009). The Q-particle *ka* obeys some constraint, which does not come from a [Q]-feature of *ka* itself given that (4b), which I assume carries a [Q]-feature, is grammatical.<sup>3</sup> The Q-particle *kke* contains not only a [Q]-feature but also other features that induce a remind-me presupposition.

Although we have seen that Q-particles are not optional, it does not conclusively show that Japanese does not have a null Q-particle at all. There might be a case that Japanese null Q-particle is just a simple realization of a [Q]-feature unlike overt Q-particles and it does not have any other features whose distribution is affected by a polite form or which induce a remind-me presupposition. This idea would rather be preferable given that imposing many features on a null element is against a minimalist view and is in fact problematic from the perspective of acquisition. However, even this idea cannot be maintained in Japanese. I provide two empirical arguments that null Q-particles do not exist in Japanese. First, under a reportative use of the discourse particle *yo* (Kuroda 1973; cf. Davis 2011), yes/no-questions cannot be formed without an overt Q-particle. (6a) has the Q-particle *ka* followed by *yo* and it contains a yes/no-question in its meaning, whereas a sentence without a Q-particle cannot form a yes/no-question under the scope of the discourse particle *yo*, as shown in (6b).

- (6) a. [ Hanako-wa ki-ta no ka] yo.  
Hanako- TOP come-PAST Fin Q Report  
'(Tell me) whether Hanako came.'  
b. [ Hanako-wa ki-ta no ] yo.  
Hanako-TOP come-PAST Fin Report  
'(I'm telling you) Hanako came.' / \*'(Tell me) whether Hanako came.'

Note that it is possible to embed a *wh*-question without a Q-particle under *yo*, as in (7).<sup>4</sup>

- (7) [ Dare-ga ki-ta no ] yo.  
who-NOM come-PAST Fin Report  
'(Tell me) who came.'

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In this paper, I would like to tentatively suppose that *kke* occupies Force like *ka*, and leave the issue of where *kke* exactly appears for future research.

<sup>3</sup> The question of when *ka* can appear is not the focus of this paper. The main concern of this paper is how matrix questions without a Q-particle such as *ka* are typed as interrogative. For the distribution of *ka*, see Miyagawa (1987, 2017) and also Sect. 4.2.

<sup>4</sup> Although the questions in (6) and (7) are "embedded" under *yo*, they are still considered as matrix questions. Pure embedded questions must carry the Q-particle *ka*, as shown in (i).

- (i) [ Dare-ga ki-ta (no) \*(ka)] osie-te.  
who-NOM come-PAST Fin Q tell-IMPR  
'Tell me who came.'

Therefore, the contrast between (i) and (7) regarding the existence of *ka* suggests that the *wh*-question in (7) is not truly embedded. Note also that the Q-particle *ka* is attached to the embedded *wh*-question in (i) without a polite form of the verb, which is not allowed in matrix *wh*-questions. (ii) shows that *wh*-questions under *yo* cannot carry the Q-particle *ka* like (4a) because the verb does not carry a politeness affix.

- (ii) \*[ Dare-ga ki-ta (no) ka] yo.  
who-NOM come-PAST Fin Q Report  
'(Tell me) who came.'

(6a) and (7) illustrate that a sentence embedded under *yo* can form a question with either the Q-particle *ka* or a *wh*-phrase, but it cannot be a question when both of them are missing, as in (6b). In other words, (6b) cannot carry a [Q]-feature, which would be unexpected if Japanese had a null Q-particle in the lexicon which purely represents a [Q]-feature.

Another piece of evidence that Japanese does not have null Q-particles comes from so-called in-situ focus constructions, illustrated in (8) and (9). In in-situ focus constructions, a sentence is headed by the complementizer *no* or *n*, which I assume is a Fin head (Hiraiwa and Ishihara 2002; see also f.n.1) and followed by the non-polite copula *da* or polite copula *desu*. In (8a), the Q-particle *kke* follows the copula *da*, and in (9a) the Q-particle *ka* follows the polite copula *desu*. Importantly, the overt Q-particles in (8a) and (9a) cannot be dropped, as illustrated in (8b) and (9b).<sup>5</sup>

- (8) a. Hanako-wa ki-ta n da kke?  
       Hanako-TOP come-PAST Fin COP Q  
       ‘(Tell me again) Did Hanako come?’  
       b. \* Hanako-wa ki-ta n da?
- (9) a. Hanako-wa ki-ta n desu ka?  
       Hanako-TOP come-PAST Fin COP.POLITE Q  
       ‘Did Hanako come?’  
       b. \* Hanako-wa ki-ta n desu?

This suggests that in-situ focus constructions cannot form yes/no-questions without an overt Q-particle. Nevertheless, it is not the case that in-situ focus constructions can never be a question without an overt Q-particle. The *wh*-question counterparts do not require an overt Q-particle, as shown in (10b) and (11b).

- (10) a. Dare-ga ki-ta n da kke?  
       who-NOM come-PAST Fin COP Q  
       ‘(Tell me again) who came?’  
       b. Dare-ga ki-ta n da?  
       ‘Who came?’
- (11) a. Dare-ga ki-ta n desu ka?  
       who-NOM come-PAST Fin COP.POLITE Q  
       ‘Who came?’  
       b. Dare-ga ki-ta n desu?

Thus, to form a matrix question in in-situ focus constructions, either an overt Q-particle or *wh*-phrase is necessary. The ungrammaticalities of (8b) and (9b) suggest that Japanese does not have null Q-particles. If it did, (8b) and (9b) should be able to form a question like (8a) and (9a).

In this section, we have seen that (i) there are no null counterparts of the overt Q-particle *ka* and *kke* in Japanese and (ii) even a null Q-particle that is a simple realization of a [Q]-feature does not exist. One could still impose some constraint on the distribution of null Q-particles to

<sup>5</sup> The ungrammaticality of (8b) and (9b) is not due to the impossibility of imposing question intonation (i.e. rising intonation) on the copula *da* or *desu*. Rising intonation can occur at the copula in the *wh*-question counterparts in (10b) and (11b). See also Section 4.2.

explain the unavailability of question interpretations in (6b), (8b) and (9b), but as discussed in Section 1, such constraint on null elements is difficult for children to learn (i.e. negative evidence would be required). I thus pursue a licensing mechanism of matrix questions in Japanese without relying on null Q-particles.

**3. Proposal.** If null Q-particles do not exist in Japanese, the question is how matrix questions without an overt Q-particle are licensed as interrogative. I first illustrate the proposal for yes/no-questions and then for *wh*-questions.

3.1. YES/NO-QUESTIONS WITHOUT A Q-PARTICLE. The contrasts between the a- and b-examples in (6), (8), and (9) suggest that the licensing conditions of yes/no-questions with and without a Q-particle are different. I propose that matrix yes/no-questions without an overt Q-particle are typed as interrogative in the Speech Act (SA) projection, that is, the speaker-oriented discourse domain located above the matrix CP (Speas and Tenny 2003; Haegeman and Hill 2013). According to Speas and Tenny (2003) and others, there are at least two projections in the SA domain. I argue that matrix yes/no-questions without a Q-particle are typed as interrogative when the top-most SA head obtains a [Q]-feature via Agree with the Pol(arity) head in the IP domain (Bailey 2013; Holmberg 2015). I assume that the Polarity head carries a [Q]-feature. The structure of the yes/no-question in (1b), repeated below as (12a), is illustrated in (12b).

- (12) a. Hanako-wa ki-masi-ta?  
 Hanako-TOP come-POLITE-PAST  
 ‘Did Hanako come?’  
 b. [SAP [... [PolP [TP Hanako come-T] Pol<sub>[Q]</sub>...] SA[\_]]  
 Agree

The licensing mechanism of (12b) can then be viewed as turning the whole utterance into a question at the highest position in the SA projection.

Recall that a sentence with *ka* can form a yes/no-question under the scope of the discourse particle *yo*, but one without *ka* cannot. The relevant examples are repeated below.

- (13) a. [Hanako-wa ki-ta no ka] yo.  
 Hanako- TOP come-PAST Fin Q Report  
 ‘(Tell me) whether Hanako came.’  
 b. \* [Hanako-wa ki-ta no ] yo.  
 Hanako-TOP come-PAST Fin Report  
 intended: ‘(Tell me) whether Hanako came.’

To explain the contrast above, I first show that the discourse particle *yo* is a SA element. I assume that a particle which cannot be embedded is a SA element given that the SA projection is located above the matrix CP domain. As in (14a), *yo* cannot appear in the embedded clause when the matrix subject *Hanako* binds the embedded subject *zibun* ‘self.’ The use of the anaphor *zibun* in (14a) confirms that the clause is truly embedded. Note that if the subject is *watasi* ‘I’ and the “embedded” clause can be considered as a direct quotation, then the particle *yo* can appear in that clause, as shown in (14b).

- (14) a. Hanako-wa [zibun-ga hannin da (\*yo) to] kokuhaku-sita.  
 Hanako-TOP self-NOM culprit COP Report C confession-did  
 ‘Hanako confessed that she is the culprit.’

- b. Hanako-wa [“watasi-ga hannin da (yo),” to] kokuhaku-sita.  
 Hanako-TOP I-NOM culprit COP Report C confession-did  
 ‘Hanako confessed “I am the culprit.”’

Therefore, the fact that a sentence with *yo* cannot be truly embedded suggests that *yo* is a SA element. The current proposal then straightforwardly accounts for the contrast between (13a) and (13b). Their structures are illustrated in (15).

- (15) a. (13a): [<sub>SAP</sub> [<sub>ForceP</sub> [<sub>FinP</sub> Hanako come-T no] ka<sub>[Q]</sub>] yo].  
 b. (13b): [<sub>SA1P</sub> [<sub>SA2P</sub> [<sub>FinP</sub> Hanako come-T-Pol no] yo] SA<sub>I[Q]</sub>].

When the Q-particle *ka*, which appears in the Force head, is present as in (13a), it marks a sentence as interrogative under the scope of the SA element *yo*. On the other hand, I have proposed that when it is absent, then a yes/no-question is licensed at the highest position in the SA projection. Since (13b) does not contain an overt Q-particle, it cannot be interpreted as a yes/no-question under the scope of the discourse particle *yo*.

The current approach can also account for the impossibility of yes-no questions in in-situ focus constructions without an overt Q-particle. The relevant examples are repeated below.

- (16) a. Hanako-wa ki-ta n da kke?  
 Hanako-TOP come-PAST Fin COP Q  
 ‘(Tell me again) Did Hanako come?’  
 b. \* Hanako-wa ki-ta n da?
- (17) a. Hanako-wa ki-ta n desu ka?  
 Hanako-TOP come-PAST Fin COP.POLITE Q  
 ‘Did Hanako come?’  
 b. \* Hanako-wa ki-ta n desu?

I argue that the deviance of (16b) and (17b) is due to an effect of Relativized Minimality (Rizzi 2004). Following Hiraiwa and Ishihara (2002, 2012) and Kuwabara (2013), I assume that the copulas *da* and *desu* are a Foc(us) head, not T like English copulas such as *is*. Kuwabara (2013) reports that these copulas can be added to a constituent on which the speaker puts some emphasis.<sup>67</sup>

<sup>6</sup> According to Hiraiwa and Ishihara (2012, f.n. 10), a copula tends to be grammaticalized into a focus particle cross-linguistically (see Cable 2010 for Tlingit, Hiraiwa 2005 for Bùli and Li and Thompson 1981 for Mandarin).

<sup>7</sup> The following examples also show that the copula *desu* is different from English copulas like *is* in terms that it does not mark tense information of adjectives. Note that the copula *desu* is optional whether the adjective in (i) is a present form or past form.

- (i) a. Omosiro-i (desu). b. Omosirok-atta (desu).  
 interesting-PRES Foc interesting-PAST Foc  
 ‘(It) is interesting.’ ‘(It) was interesting.’

This suggests that the copula *desu* functions as something different from tense unlike English *is*. I assume that *desu* in (i) is also a Focus head. Interestingly, (i) with *desu* cannot be a yes-no question without a Q-particle (Yoshida and Yoshida 1996).

- (ii) a. \* Omosiro-i desu? b. \* Omosirok-atta desu?  
 interesting-PRES Foc interesting-PAST Foc

The ungrammaticality of (ii) can also be attributed to a focus intervention effect under the proposed approach. This account is however not conclusive since it does not sound like the copula *desu* in (i) is semantically a focus element. I would like to leave this issue for future research.

- (18) [Gosai-no otokonoko-ga]-da/desu yo, Syopan-no Gensousokkyoukyoku-o  
 five-year-GEN boy-NOM-Foc Report Chopin-GEN Fantasie.Impromptu-ACC  
 migotoni hiki-masi-ta.  
 beautifully play-POLITE-PAST  
 ‘A FIVE-YEAR-OLD BOY played Chopin’s Fantasie Impromptu beautifully.’  
 (Kuwabara2013, 97: slightly modified)

I further suppose that [Q] and [Foc] belong to the same class of feature following Rizzi (2004). The structure of (16b) and (17b) is illustrated in (19), where the Agree relation between Pol and SA is blocked by the Focus head *da/desu*.

- (19) [SAP [FocP [FinP [PolP [TP Hanako come-T] Pol<sub>[Q]</sub>] no] da/desu<sub>[Foc]</sub>] SA<sub>[ ]</sub>]
- 

In short, the SA head fails to obtain a [Q]-feature in (19) due to a focus intervention effect (cf. Beck 2006; Kim 2006; Miyagawa 2010).<sup>8</sup> This problem does not arise when there is a Q-particle. The structure of (16a) and (17a) is given below:

- (20) [ForceP [FocP [FinP [TP Hanako come-T] no] da/desu<sub>[Foc]</sub>] kke/ka<sub>[Q]</sub>]

In (20), the overt Q-particle itself types the sentence as interrogative at ForceP.

So far, I have argued that a yes/no question with an overt Q-particle such as *ka* and *kke* is licensed as interrogative at ForceP, whereas one without it is at the highest position in the SA projection. In other words, there are two positions where a yes/no-question is licensed. I will now show that Japanese has another Q-particle which appears in the topmost SA head, that is, the tag-question particle *ne*. This is consistent with the two-layered approach proposed in this paper. A sentence ending with the particle *ne* induces a tag-question interpretation, as shown in (21a),

<sup>8</sup> Interestingly, in-situ focus constructions without a Q-particle can form a yes/no-question with the past form of the copulas *datta* or *desita*, as shown in (i).

- (i) a. Hanako-ga keeki-o tukuru n \*da / <sup>ok</sup>da-tta?  
 Hanako-TOP cake-ACC make Fin COP/ COP-PAST  
 ‘Is it Hanako that will bake a cake?’  
 b. Hanako-wa keeki-o tukuru n \*desu/ <sup>ok</sup>desi-ta?  
 Hanako-TOP cake-ACC make Fin COP.POLITE/ COP.POLITE-PAST  
 ‘Is it Hanako that will bake a cake?’

It seems that the copulas that contain a past-morpheme do not behave as a Focus head and thus they do not induce a focus intervention effect in (i). In fact, unlike *da* and *desu* (cf. 18), these copulas cannot be used to emphasize a constituent.

- (ii) \*[Gosai-no otokonoko-ga]-datta/desita yo, Syopan-no Gensousokkyoukyoku-o  
 five-year-GEN boy-NOM- COP.PAST/COP.POLITE.PAST Report Chopin-GEN Fantasie.Impromptu-ACC  
 migotoni hiki-masi-ta.  
 beautifully play-POLITE-PAST

Moreover, unlike *desu* (cf. f.n.7), they cannot appear with an adjective that contains a tense-morpheme, as shown in (iii).

- (iii) a. \*Omosiro-i datta/desita. b. \*Omosirok-atta datta/desita.  
 interesting-PRES COP.PAST/COP.POLITE.PAST interesting-PAST COP.PAST/COP.POLITE.PAST

This suggests that *datta* and *desita* behave as a tense-marked copula like English *is* and thus they cause the ungrammaticality of (iii) due to the doubling of tenses.

whereas it cannot be attached to a *wh*-question, as in (21b). (21b) thus suggests that *ne* is a tag-question particle by nature.

- (21) a. Hanako-wa ki-ta ne?  
           Hanako-TOP come-PAST TAG  
           ‘Hanako came, didn’t she?’  
       b. \*Dare-ga ki-ta ne?  
           who-NOM come-PAST TAG

This particle can be analyzed as a SA element given that it cannot be embedded, as shown in (22).

- (22) \* [ Hanako-wa ki-ta ne ] kii-ta.  
           Hanako-TOP come-PAST TAG ask-PAST

I argue that this particle also carries a [Q]-feature, like *ka* and *kke*, as well as a feature that induces a tag-question interpretation. Recall that an in-situ focus construction cannot be licensed as interrogative without a Q-particle or *wh*-phrase (cf. 8-11). The acceptability of (23) as a question thus shows that it is the particle *ne* that types these sentences as a question.

- (23) a. Hanako-wa ki-ta n da ne?  
           Hanako-TOP come-PAST Fin Foc TAG  
           ‘Hanako came, didn’t she?’  
       b. Hanako-wa ki-ta n desu ne?  
           Hanako-TOP come-PAST Fin Foc TAG  
           ‘Hanako came, didn’t she?’

In addition, importantly, the Q-particle *ne* occupies the highest position in the SA projection among other discourse-oriented particles. (24) shows that it must follow other discourse particles such as *wa* and *yo* (Saito and Haraguchi 2012).

- (24) a. Hanako-wa ki-ta {wa ne / \*ne wa}  
       b. Hanako-wa ki-ta {yo ne / \*ne yo}  
       c. Hanako-wa ki-ta {wa yo ne / \*ne wa yo / \*wa ne yo}

The above data confirms that *ne* is a Q-particle that appears in the topmost SA and induces a tag-question interpretation. This is consistent with the idea that a yes/no question can be typed as interrogative at the topmost SA. This point will be further discussed in Section 4.1 in terms of the typology of Q-particles.

3.2. *WH*-QUESTIONS WITHOUT A Q-PARTICLE. In Section 2, we have seen that unlike yes/no-questions, matrix *wh*-questions do not require an overt Q-particle. The relevant examples are repeated below:

- (25) a. [ Dare-ga ki-ta no ] yo.  
           who-NOM come-PAST Fin Report  
           ‘(Tell me) who came.’  
       b. [ Hanako-wa ki-ta no ka ] yo.  
           Hanako-TOP come-PAST Fin Q Report  
           ‘(Tell me) whether Hanako came.’  
       c. \* [ Hanako-wa ki-ta no ] yo.  
           intended: ‘(Tell me) whether Hanako came.’



- (26) a. Dare-ga ki-ta n da?  
 who-NOM come-PAST Fin Foc  
 ‘Who came?’  
 b. Hanako-wa ki-ta n da kke?  
 Hanako-TOP come-PAST Fin Foc Q  
 ‘(Tell me again) Did Hanako come?’  
 c. \* Hanako-wa ki-ta n da?
- (27) a. Dare-ga ki-ta n desu?  
 who-NOM come-PAST Fin Foc  
 ‘Who came?’  
 b. Hanako-wa ki-ta n desu ka?  
 Hanako-TOP come-PAST Fin Foc Q  
 ‘Did Hanako come?’  
 c. \* Hanako-wa ki-ta n desu?

Matrix *wh*-questions are licensed as interrogative without a Q-particle, as shown in the a-examples above, whereas matrix yes/no-questions are not, as in the b- and c-examples. Based on this data, one could pursue the idea that there is a null Q-particle only in matrix *wh*-questions assuming that a Q-particle for *wh*-questions is different from one for yes/no-questions. This idea is difficult to deny with empirical data, but I will not pursue this line of research because it is not desirable from the perspective of acquisition. Children have to figure out from the input that (i) a Q-particle for *wh*-questions is different from one for yes/no-questions although the two morphemes share the same phonological shape such as *ka* and *kke*, and (ii) the former can be null but not the latter, which would require negative evidence. Rather, I assume that Q-particles in *wh*-questions and yes/no-questions are the same as they look so (Uegaki 2018), and pursue a licensing mechanism of matrix *wh*-questions without positing a null Q-particle.

Recall that an overt Q-particle or a *wh*-phrase is necessary to form a question under the discourse particle *yo* or in in-situ focus constructions (see 25-27). This means that a *wh*-phrase behaves similarly to an overt Q-particle in licensing a sentence as interrogative. I thus propose that matrix *wh*-questions are typed as interrogative via Agree with a *wh*-phrase. The licensing mechanism I propose for matrix *wh*-questions is the following:

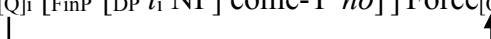
- (28) *wh*-questions without a Q-particle:
- a. [ForceP [FocP *wh*-Op<sub>[Q]</sub> [TP ... [DP *t<sub>i</sub>* NP] ... V-T] ] Force[\_]]
- ↑  
wh-operator movement
- b. [ForceP [FocP *wh*-Op<sub>[Q]</sub> [TP ... [DP *t<sub>i</sub>* NP] ... V-T] ] Force[\_]]
- ↓  
Agree

There are three assumptions I adopt in (28). First, I assume that a *wh*-phrase has a [Q]-feature (Chomsky 2000, 128; cf. Cable 2010; Chomsky 2013; Narita 2011). In addition, following Watanabe (1992, 2003) and Reinhart (1998), I suppose that a *wh*-phrase is decomposed into a *wh*-operator and a core noun, represented as NP in (28), and the *wh*-operator undergoes movement to at least SpecFocP, as in (28a). Furthermore, I assume that it is Force that obtains a [Q]-feature via Agree in *wh*-questions, as in (28b).<sup>9</sup>

<sup>9</sup> Alternatively, it is possible to analyze the *wh*-operator as moving to SpecForceP, and thereby a [Q]-feature is assigned to Force in a spec-head agreement fashion, which Rizzi (1996) calls dynamic agreement (see also Yoshida

This proposal accounts for (25a), where a *wh*-question is formed under the scope of the discourse particle *yo*. The structure of (25a) is given below:

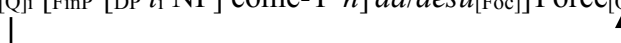
(29) [SAP [ForceP [FocP *wh*-Op<sub>[Q]</sub> [FinP [DP *t<sub>i</sub>* NP] come-T *no*] ] Force<sub>[Q]</sub>] *yo*].



In (29), the empty Force head undergoes Agree with the *wh*-operator to obtain a [Q]-feature, and thus the *wh*-question is licensed and interpreted under the scope of the SA element *yo*.

In addition, the proposed approach accounts for the grammaticality of (26a) and (27a) as well. In *wh*-questions, a *wh*-operator first undergoes movement to at least SpecFocP. Then, the Agree relation between the *wh*-operator and Force is not blocked by the Focus head *da* or *desu* in *wh*-in-situ focus constructions because it does not structurally intervene between them, as illustrated in (30).

(30) [ForceP [FocP *wh*-Op<sub>[Q]</sub> [FinP [DP *t<sub>i</sub>* NP] come-T *n*] *da/desu*<sub>[Foc]</sub>] Force<sub>[Q]</sub>].



Therefore, *wh*-in-situ focus constructions circumvents a focus intervention effect observed in yes/no-question counterparts (cf. 19).

**4. Implications.** I have claimed that some matrix questions are licensed at ForceP and others at SAP. Table 1 summarizes my proposal regarding where matrix questions in Japanese are licensed.

	ForceP	SAP
yes/no-questions	with <i>ka/kke</i>	yes/no with <i>ne</i> yes/no without a Q-particle
<i>wh</i> -questions	with <i>ka/kke</i> without a Q-particle	

Table 1. the position where matrix questions are licensed

As shown in Table 1, I am particularly proposing two licensing positions for matrix yes/no-questions. In this section, I discuss two implications of this proposal.

**4.1. TYPOLOGY OF YES/NO-QUESTION PARTICLES.** The proposed two-layered approach to matrix yes/no-questions are consistent with the typology of Q-particles. Bailey (2013) observes that Q-particles for yes/no-questions can be divided into two types cross-linguistically. Q-particles in some languages can be embedded like *ka*, whereas those in other languages cannot, like *ne*. For instance, the Q-particle *ma* in Mandarin cannot appear in embedded questions, as shown in (31).

- (31) a. [Ni yao kan zhe-ben shu] ma?  
           you want read this-CL book Q  
           ‘Do you want to read this book?’  
       b. \*Wo zuotian faxian [ni yao kan zhe-ben shu ma].  
           I yesterday find.out you want read this-CL book Q  
           intended: ‘I found out yesterday whether you wanted to read this book.’

---

and Yoshida 1996). In this alternative analysis, that the Force head obtains a [Q]-feature is just a byproduct of *wh*-operator movement, which may motivate the reason why *wh*-questions are typed as interrogative at ForceP, not SAP.

4.2. NATURE OF INTONATION IN YES/NO-QUESTIONS. As we have seen, some of matrix yes/no-questions in Japanese require a Q-particle to be licensed as interrogative. The relevant examples are repeated here as (32).

- Interestingly, (32) is not grammatical even with rising intonation, which is commonly believed to license matrix yes/no-questions. In other words, rising intonation does not assign a [Q]-feature to a sentence. Rather, it is just a phonological realization of [Q] in matrix yes/no-questions. If so, the question that immediately arises is why rising intonation occurs at the sentence *final* position not only in head-final languages but also in head-*initial* languages like English. Greenberg (1963) names this property Universal 8.

- In this subsection, I argue that the idea that matrix yes/no-questions can be licensed in the SA projection is needed in order to account for Universal 8. In particular, we need to assume that (i) SAPs are always head-final and (ii) matrix yes/no-questions always mark [Q] in the head-final SA projection whether or not they have a Q-particle. These assumptions ensure that a [Q]-feature in matrix yes/no-questions always appears in the head-final SA head (i.e. the end of the sentence), and question intonation is a phonological realization of that [Q]-feature. The first assumption is not so strange given that a Q-particle appears in the sentence-*final* position even in head-*initial* languages, as in Mandarin. Recall that the Q-particle *ma* in Mandarin is a SA element because it cannot be embedded (cf. 31b). Interestingly, this SA element appears in the sentence-*final* position although Mandarin is a head-*initial* language (cf. 31a). This is consistent with the idea that SA heads are universally head-final even in head-initial languages like Mandarin.<sup>10</sup> In fact, Bailey (2013) observes that a sentence-*final* Q-particle in general cannot be embedded in head-*initial* languages such as Mandarin, Vietnamese, Ewe, Kayah Li, Langi, Miya, and Nung.<sup>11</sup> This word-order mismatch across languages supports the idea that SAPs are universally head-final.

<sup>11</sup> It should be noted that a sentence-final Q-particle in head-initial languages such as *ma* in Mandarin should be reanalyzed as a disjunction according to Bailey (2013). The motivation of this reanalysis is mainly to avoid the Final-Over-Final Constraint (FOFC; Biberauer, Holmberg, and Roberts 2014), as formulated in (i).

The second assumption is different from what I have assumed in the previous sections, that is, matrix yes/no-questions with *ka/kke* are licensed as interrogative at ForceP. However, they are not incompatible. It is possible to consider that a [Q]-feature is marked at both ForceP and SAP, as in (34).

- (34) yes/no-questions with *ka/kke* (revised from 3):
- a. [<sub>ForceP</sub> [... [<sub>TP</sub> Subj V-T] ...] *ka/kke*<sub>[Q]</sub>]
  - b. [<sub>SAP</sub> [<sub>ForceP</sub> [... [<sub>TP</sub> Subj V-T] ...] *ka/kke*<sub>[Q]</sub>] SA<sub>[Q]</sub>]

In (34a), *ka/kke* appears in the Force head, and thereby ForceP is typed as interrogative. In (34b), a SAP is introduced above the interrogative ForceP, and the SA head receives a [Q]-feature from the interrogative Force head. This feature sharing between Force and SA can be considered as a result of either selection or Agree. This revised analysis does not harm the accounts for the data in the previous sections. The existence of the SA projection in matrix yes/no-questions might be supported by the distribution of the Q-particle *ka*. Miyagawa (1987, 2017) argues that the Q-particle *ka* must be selected by a head. According to him, the contrast in (35) is attributed to this selection requirement on *ka*. Based on Stowell (1981) and Fukui (1986), he assumes that bridge verbs like *say* selects an interrogative clause, whereas non-bridge verbs such as *whisper*, *murmur*, and *shout* does not.

- (35) a. Bill-wa [<sub>CP</sub> dare-ga kuru ka] itta.  
 Bill-TOP who-NOM come Q said  
 ‘Bill said who will come.’
- b. ?\*Bill-wa [<sub>CP</sub> dare-ga kuru ka] donatta.  
 Bill-TOP who-NOM come Q shouted  
 ‘Bill shouted who will come.’ (Miyagawa 2017: 27)

Recall that in matrix *wh*-questions, *ka* can appear when it follows a politeness-marked verb, whereas it cannot without a politeness-marked verb, as shown in (36). Miyagawa argues that *ka* can appear in (36a) because the politeness affix *-masi* requires the SA projection, and *ka* is selected by that SA head. On the other hand, as in (36b), *ka* cannot appear without a politeness affix.

- (36) a. Dare-ga ki-masi-ta ka?  
 who-NOM come-POLITE-PAST Q  
 ‘Who came?’
- b. \*Dare-ga ki-ta (no) ka?  
 who-NOM come-PAST Fin Q  
 ‘Who came?’

- 
- (i) A head-final phrase  $\alpha P$  cannot dominate a head-initial phrase  $\beta P$ , where  $\alpha$  and  $\beta$  are heads in the same extended projection. (Biberauer et al. 2014, 171)

Note that if a sentence-final particle in head-initial languages constitutes the C head of CP and selects a head-initial domain (e.g. TP), then it violates this constraint. Bailey then argues that questions with that particle should be analyzed as disjunctive sentences where the second disjunction is elided. She then assumes that such questions are licensed as interrogative by intonation, which I argue against here. In this paper, I assume that in contrast to Bailey, the particle in question is a Q-particle, which occupies the SA head. In fact, this analysis is not inconsistent with the FOFC given that the SA projection is a different extended projection from the C domain (Sheehan et al. 2017).

What is especially interesting in this respect is that *ka* does not require a politeness affix in matrix yes/no questions, as shown in (37).

- (37) Hanako-wa      ki-ta            (no) ka?  
       Hanako-TOP    come-PAST   Fin    Q  
       ‘Did Hanako come?’

If *ka* must be selected by a head as argued by Miyagawa, then how is it selected in (37) without a politeness affix? The second assumption I pursue here provides an answer. Matrix yes/no-questions universally project up to the SA projection whether or not they have a Q-particle, and thus *ka* can be selected by the SA head in matrix yes/no-questions even without a politeness affix.

In summary, in this subsection, I have suggested that a universal property of matrix yes/no-questions can be accounted for if we follow the idea that matrix yes/no-questions can be licensed in the SA projection. I have focused on what Greenberg calls Universal 8, that is, question intonation in matrix yes/no-questions always appears in the end of the sentences. This property is puzzling given that rising intonation is not like a Q-particle, which assigns a [Q]-feature to a sentence, but a phonological representation of a [Q]-feature marked in syntax. I have argued that matrix yes/no-questions always contain the head-final SA projection, where a [Q]-feature is marked in syntax, and rising intonation is a phonological realization of that [Q]-feature.

**5. Conclusion.** In this paper, I have argued that matrix questions without a Q-particle are not typed as interrogative by the existence of a null Q-particle or rising intonation. I have then pursued a mechanism of derivationally licensing matrix questions without a Q-particle. I have proposed that matrix yes/no- and *wh*-questions without a Q-particle are licensed via Agree with the relevant [Q]-items; a Pol head in yes/no-questions and a *wh*-phrase in *wh*-questions. I have further argued that matrix yes/no-questions can be licensed as interrogative at ForceP or the highest SAP. This two-layered approach is consistent with the typology of Q-particles. Some Q-particles can be embedded and others cannot. Under the proposed approach, the former appears in ForceP and the latter in SAP. The present study has also suggested that rising intonation is a phonological realization of a [Q]-feature. The question then is why it universally occurs in the end of the sentence even in head-initial languages. I have argued that this puzzle can be solved under the assumption that matrix yes/no-questions always mark a [Q]-feature in the highest SA head and rising intonation represents that [Q]-feature. This account thus follows the idea that matrix yes/no-questions can be licensed at SAP.

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